

HIGH SPEED HIGH CURRENT GAIN  
OPERATIONAL AMPLIFIER

## ABSTRACT OF THE DISCLOSURE

5       An operational amplifier having a low impedance input and a high current gain output. The operational amplifier comprises: 1) a first N-channel transistor having a source coupled to the low impedance input of the operational amplifier; 2) a first constant current source coupled between the source of the first  
10 N-channel transistor and ground; 3) a first amplifier stage having an input coupled to the first N-channel transistor source and an inverting output coupled to a gate of the first N-channel transistor; 4) a second amplifier stage having an input coupled to a drain of the first N-channel transistor and an output  
15 coupled to the high current gain output of the operational amplifier; and 5) an internal compensation capacitor coupled between the input and the output of the second amplifier stage.